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10/747,646	12/29/2003	Jasvantrai Shah	RIC99067	5723

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EXAMINER	
WOLDEKIDAN, HIBRET ASNAKE	
ART UNIT	PAPER NUMBER
2613	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/747,646	SHAH, JASVANTRAI	
	Examiner	Art Unit	
	Hibret A. Woldekidan	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03/24/2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Examiner acknowledges receipt of Applicant's Amendments, remarks, arguments received on 03/24/2010. Applicant's arguments have been considered but are moot in view of the new grounds of rejections.

Claim Rejections - 35 USC § 112

Claim 15 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 15 states in line 6-14 "*...the router comprising: ...an input protection port to transmit or receive low priority data to or from the input spare port of the OXC, where upon detection of a failure of the working port of the router, the input protection port of the router connects to the spare port of the OXC*..."

First, the claim states the router has a protection port to transmit/receive low priority data to/from the spare port of the OXC. This shows that a connection between the protection port of the router and the protection port of the OXC is established to transmit low priority data. However, later the claim states, "*...upon detection of a failure of the working port of the router, the input protection port of the router connects to the spare port of the OXC...*" The protection ports of the router and the protection port of the OXC

have been already connected to each other to transmit low priority data before the failure in the working port of the router detected. It is not clear how the already connected protection port of the router and protection port of the OXC reconnected after the failure is being detected as stated in the claim?

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim 1-10 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erickson et al (6,882,765) in view of Walters(US 2002/0176131).

Considering claim 1, Erickson discloses a method comprising: providing an optical cross-connect system (OXC) having a working port and a spare port**(See Col. 23 lines 33-41, fig. 17b i.e. providing an OXC(1504) having a working port(1541B) and a protection port(1332))**; providing a router having a working port to transmit or receive data to or from the working port of the OXC and a protection port to transmit or receive data to or from the spare port of the OXC**(See Col. 20 lines 22-26, Col. 23 lines 33-41, fig. 17b i.e. the a router(1502) having a working port (1521_A) and a protection port(1522) to bidirectionally receive and transmit optical signals from the OXC(1504))**; detecting a failure in the router(**See Col. 22 lines 64-67, fig. 17b i.e. detecting a failure in the router(1502) by a port 1521A)**; sending a signal from the

router to the OXC**(See Col. 23 lines 1-8, fig. 17b i.e. after the router(1502) detects a failure in one of the links(1702), the router(1502) sends a signal to the OXC))**, where the signal indicates the failure**(See Col. 23 lines 1-8 and lines 28-41, fig. 17b i.e. sending failure indicating signal from the router(1502) to the oxc(1504))**; causing the working port of the OXC to connect to the protection port of the router in response to detection of the signal**(See Col. 23 lines 28-41, fig. 17b i.e. fig. 17 b illustrates that after the router(1502) detects a failure in one of the links(1702), the router(1502) sends a signal to the OXC(1504), as a result, a working port(1540B) of the OXC(1504) to connect to the protection port(1522) of the router(1522))** and transmitting data from the router to the OXC via the protection port**(See Col. 23 lines 34-41, fig. 17b i.e. fig. 17 the OXC working port(1541B) connects to the router protection port(1522) to transmit signal via the protection port).**

Erickson does not explicitly disclose a working port to transmit or receive high priority data and a protection port to transmit or receive low priority data where the transmission of low priority data is preempted by the transmission of the high priority data, in response to the failure of the router; and transmitting the high priority data from the router to the OXC via the protection port.

Walters teaches providing a router having a working port to transmit or receive high priority data to or from the working port of the OXC **(See Paragraph 508,70, fig. 53 i.e. a signal routing device (OTS_B) has a high priority data transmitting path(5310, shown by a solid line) for transmitting high priority data from/to OXC (OTS_C))**and a protection port to transmit or receive low priority data to or from the spare port of the

OXC **(See Paragraph 508,70, fig. 53 i.e. a signal routing device(OTS_B) has a low priority data transmitting path(5312, shown by a dashed line) for transmitting low priority data from/to OXC (OTS_C))**where the transmission of low priority data to or from the router is preempted by the transmission of the high priority data to or from the router, in response to the failure of the router**(See Paragraph 487,508, fig. 53 i.e. when a failure occurs affecting the high priority data path, the low priority data path preempted and rerouting the high priority data over the low priority data path)**; and transmitting the high priority data from the router to the OXC via the protection port**(See Paragraph 487,508, fig. 53 i.e. transmitting high priority data using the low priority data path)**.

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Erickson, and transmit a low priority data using a spare port and a high priority data using a working port and where the transmission of low priority data to or from the router to be preempted by the transmission of the high priority data to or from the router, in response to the failure of the router, as taught by Walters, thus providing an efficient data transmission system by utilizing the usage of bandwidth by using protection path to carry pre-emptable traffic so that incase of a failure high priority data can be transmitted using the preemtable protection path, as discussed by Walters**(Paragraph 6)**.

Considering claim 2 Erickson discloses the method of claim 1, where the sending further comprises: sending the signal as an in-band signal, to the OXC **(See abstract, Col. 25 lines 53-57(claim 14), Col. 23 lines 2-5, Col. 25 lines 44-47 i.e. sending**

failure signaling channel from the router to the OXC(See Col. 23 lines 2-5) to inform connection failure and this signaling channel is an in-band signaling channel(See Col. 25 lines 44-47)).

Considering claim 3 Erickson discloses the method of claim 2, where the sending an in-band signal to the OXC further comprises: sending a Synchronous Optical Network (SONET) signal to the OXC **(See abstract, Col. 20 lines 5-10 i.e. Communicating SONET channels with the OXC).**

Considering claim 4 Erickson discloses, the method of claim 1, where the sending further comprises: sending the signal as an out-of-band signal to the OXC **(See abstract, Col. 25 lines 22-24(claim 8), Col. 23 lines 2-5, Col. 25 lines 44-47 i.e. An out of band channel or an in band channel can be used to indicate connection failure(See abstract). Erickson further discussed, sending a failure signaling channel from the router to the OXC(See Col. 23 lines 2-5) to inform connection failure and this signaling channel can be an out-of-band signaling channel(See Col. 25 22-24(claim 8), Col. 28 lines 27-31). The out-of-band signaling channel is a dedicated signaling link (See Col. 19 lines 13-18))).**

Considering claim 5 Erickson discloses, the method of claim 4, where the sending an out-of-band signal comprises: the step of addressing the out-of-band signal to an Internet Protocol address associated with the OXC **(See Col. 19 lines 1-9 i.e. internet protocol associated with OXC)**.

Considering claim 6 Erickson discloses a method comprising: providing an optical cross-connect system (OXC) having a working port and a spare port**(See Col. 23 lines 33-41, fig. 17b i.e. providing an OXC(1504) having a working port(1541B) and a protection port(1332))**; providing a router having a working port to transmit or receive data to or from the working port of the OXC and a protection port to transmit or receive data to or from the spare port of the OXC**(See Col. 23 lines 33-41, fig. 17b i.e. a router(1502) having a working port (1521_{A-N}) and a protection port(1522) to receive and transmit optical signals from the OXC(1504))**; receiving a signal at the OXC from the router, the signal indicating a failure of a working port in the router**(See Col. 23 lines 1-5 and lines 28-30, fig. 17b i.e. the OXC(1504) receiving an error indicative signal from the router(1502) after the router(1502) detects a failure in one of the working paths(1506A'-N'))**; connecting the protection port of the router to the working port of the OXC in response to receiving the signal **(See Col. 23 lines 1-5 and lines 28-41, fig. 17b i.e. after the router(1502) detects a failure in one of the links(1702), the router(1502) sends a signal to the oxc(1504). In response, the OXC working port(1541B) connects to the router(1502) protection port(1522)).**

Erickson does not explicitly disclose a working port to transmit or receive high priority and a protection port to transmit or receive low priority data where the transmission of low priority data is preempted by the transmission of the high priority data, in response to the failure of the router; and transmitting the high priority data from the router to the OXC via the protection port.

Walters teaches providing a router(See Paragraph 70 i.e. OTS_B) having a working port to transmit or receive high priority data to or from the working port of the OXC **(See Paragraph 508,70, fig. 53 i.e. a signal routing device (OTS_B) has a high priority data transmitting path(5310, shown by a solid line) for transmitting high priority data from/to OXC (OTS_C))** and a protection port to transmit or receive low priority data to or from the spare port of the OXC **(See Paragraph 508,70, fig. 53 i.e. a signal routing device(OTS_B) has a low priority data transmitting path(5312, shown by a dashed line) for transmitting low priority data from/to OXC (OTS_C))**where the transmission of low priority data to or from the router is preempted by the transmission of the high priority data to or from the router, in response to the failure of the router**(See Paragraph 487,508, fig. 53 i.e. when a failure occurs affecting the high priority data path, the low priority data path preempted and rerouting the high priority data over the low priority data path)**; and transmitting the high priority data from the router to the OXC via the protection port**(See Paragraph 487,508, fig. 53 i.e. transmitting high priority data using the low priority data path)**.

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Erickson, and transmit a low priority data using a spare port and a high priority data using a working port and where the transmission of low priority data to or from the router to be preempted by the transmission of the high priority data to or from the router, in response to the failure of the router, as taught by Walters, thus providing an efficient data transmission system by utilizing the usage of bandwidth by using protection path to carry pre-emptable traffic so that incase of a

failure high priority data can be transmitted using the preemtable protection path, as discussed by Walters**(Paragraph 6)**.

Considering claim 7 Erickson discloses the method of claim 6, where the receiving further comprises: receiving an in-band signal, from the protection port of the router, at the OXC **(See abstract, Col. 25 lines 53-57(claim 14), Col. 23 lines 2-5, Col. 25 lines 44-47 i.e. receiving failure signaling channel from the router to the OXC(See Col. 23 lines 2-5) and this signaling channel is an in-band signaling channel(See Col. 25 lines 44-47). The in-band signaling channel is a dedicated signaling link used in parallel with each of the working link(See Col. 25 lines 53-57(claim 14)). This shows that the signaling channel is transmitted not using a working channel but using a spare channel. Erickson further discusses providing signaling interface using a protection or a spare path(See Col. 18 lines 29-31))**.

Considering claim 8 Erickson discloses the method of claim 7, where the receiving an in-band signal at the OXC comprises: receiving a Synchronous Optical Network (SONET) signal at the OXC **(See abstract, Col. 20 lines 5-10 i.e. Communicating SONET channels with the OXC)**.

Considering claim 9 Erickson discloses the method of claim 6, where the receiving further comprises: receiving an out-of-band signal at the OXC **(See abstract, Col. 25 lines 22-24(claim 8), Col. 23 lines 2-5, Col. 25 lines 44-47 i.e. An out of band channel or an in band channel can be used to indicate connection failure(See abstract). Erickson further discussed, receiving a failure signaling channel from the router to the OXC(See Col. 23 lines 2-5) to inform connection**

failure and this signaling channel can be an out-of-band signaling channel(See Col. 25 22-24(claim 8), Col. 28 lines 27-31). The out-of-band signaling channel is a dedicated signaling link (See Col. 19 lines 13-18))).

Considering claim 10 Erickson discloses, the method of claim 9, where the receiving an out-of-band signal further comprises: addressing the out-of-band signal to an Internet Protocol address associated with the OXC **(See Col. 19 line 1-9 i.e. internet protocol associated with OXC)**.

Considering claim 15, Erickson discloses a communications network for transmitting data, the communication network comprising: an optical cross-connect system (OXC) having a working port and a spare port**(See Col. 20 lines 51-53, fig. 17B i.e. the OXC(1504) has a working port(1531A) and a protection port(1532))**; and a router for receiving the data from a terminal**(See Col 19 lines 1-7 i.e. a router which is a client node(1502) for receiving data from other units)**, the router comprising: a working port to transmit or receive data to or from the working port of the OXC**(See Col. 20 lines 22-26, fig. 17B i.e. the router(1502) has a working port(1521A) to transmit data bidirectionally to/from the OXC(1504))**; and an input protection port **(See Col. 23 lines 34-36, fig. 17B i.e. the router(1502) has a protection port(1522) to bidirectionally communicate with protection port of the OXC(1504))**, where upon detection of a failure of the working port of the router, the input protection port of the router connects to the spare port of the OXC **(Col. 23 lines 28-41, Col. 22 lines 57-60,fig. 17b i.e. upon detecting of failure in the working port(1531A), the**

router(1502) internally switches from its working port(1521) to its protection port(1532)).

Erickson does not explicitly disclose a working port to transmit or receive high priority data to or from the working port of the OXC and a protection port to transmit or receive low priority data to or from the input spare port of the OXC, where upon detection of a failure of the working port of the router, the input protection port of the router is preempted by the transmission of high priority data.

Walters teaches a router having a working port to transmit or receive high priority data to or from the working port of the OXC **(See Paragraph 508,70, fig. 53 i.e. a signal routing device (OTS_B) has a high priority data transmitting path(5310, shown by a solid line) for transmitting high priority data from/to OXC (OTS_C))**and a protection port to transmit or receive low priority data to or from the spare port of the OXC **(See Paragraph 508,70, fig. 53 i.e. a signal routing device(OTS_B) has a low priority data transmitting path(5312, shown by a dashed line) for transmitting low priority data from/to OXC (OTS_C))** where upon detection of a failure of the working port of the router, the input protection port of the router is preempted by the transmission of high priority data**(See Paragraph 487,508, fig. 53 i.e. when a failure occurs affecting the high priority data path, the low priority data path preempted and rerouting the high priority data over the low priority data path)**.

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Erickson, and transmit a low priority data using a spare port and a high priority data using a working port and where the transmission of low

priority data to or from the router to be preempted by the transmission of the high priority data to or from the router, in response to the failure of the router, as taught by Walters, thus providing an efficient data transmission system by utilizing the usage of bandwidth by using protection path to carry pre-emptable traffic so that incase of a failure high priority data can be transmitted using the preemtable protection path, as discussed by Walters**(Paragraph 6)**.

Considering Claim 16 Erickson discloses the communications network of claim 15, where the router transmits a signal indicating the failure to the OXC, the signal causing the OXC to connect the input protection port to the input working port of the OXC **(See Col. 23 line 6-27, fig. 15 i.e. router transmit signal incase of a failure)**.

Considering claim 17 Erickson disclose, the communications network of claim 16, where the signal is an in-band signal **(See abstract i.e. in-band signal)**

Considering claim 18 Erickson disclose, the communications network of claim 17, where the in-band signal is a Synchronous Optical Network (SONET) signal **(See Col. 20 lines 5-10 i.e. SONET channels)**

Considering claim 19 Erickson discloses the communications network of claim 16, where the signal is an out-of-band signal **(See Abstract, Col. 2 lines 63-67 and Col. 3 lines 1-3, Col. 16 i.e. an out-of-band signal)**.

Considering claim 20 Erickson discloses, the communications network of claim 19, where the out-of-band signal is addressed to an Internet Protocol address

associated with the OXC **(See Col. 19 lines 1-9 i.e. internet protocol associated with OXC)**.

3. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi et al. (US 2003/0185566).

Considering Claim 11 Nishi discloses an optical cross-connect system comprising: a spare port to transmit low priority data to or from a router**(See Paragraph 93,fig. 13, i.e. an optical switching device(40-1) has a protection port coupled to a protection line(P) for transmitting low priority data (P) (indicated by dashed line see fig. 13) to a protection router(12))**; and a working port to transmit high priority data to or from a primary router**(See Paragraph 93,fig. 13, i.e. the optical switching device(40-1) has a working port(W) coupled to a protection line(P) for transmitting high-priority data to a working router(11))**, where the working port is connected to the router in response to a failure of the primary router**(See Paragraph 107, 98,fig. 14, i.e. in response to a failure in the primary router(11), the internal switching unit(42) of switching device(40-1) crisscrosses the working line(W) and the protection line(P) resulting in a working line(W) to be connected to a protection router(12) to transmit high priority data to the protection router(12))**, and where the transmission of low priority data to or from the router is preempted by the transmission of the high priority data to or from the router, in response to the failure of the primary router**(See Paragraph 98,107-109,fig. 14, i.e. in response to a failure in the primary router(11), the working port(W) is connected to the protection port(P)**

changing the optical switch(42) the high priority data from the working port(w) replaces the low priority data).

Nishi does not explicitly the low priority data is preempted by the transmission of the high priority data in response of a failure.

However discloses, in response to a failure in the primary router(11), the internal switching unit(42) of switching device(40-1) crisscrosses the working line(W) and the protection line(P) resulting in switching over the high priority data from the working line(W) to a protection line(P) and vice versa so that the high priority data can be directed to the protection router(12)**(See Paragraph 98,107)**.

Since the high priority data completely takes over the protection path as a result of crisscrossing the working path(W) and the protection path(P), it would have been obvious to one of ordinary skilled in the art at the time the invention was made to considered the low priority data to or from the router is preempted by the transmission of the high priority data to or from the router, in response to the failure of the primary router.

3. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi et al. (US 2003/0185566) in view of Erickson et al (6,882,765).

Considering claim 12, Nishi does not explicitly disclose the optical cross-connection system of claim 11, where the working port is connected to the router in response to receiving an inband signal from the router.

Erickson teaches the working port is connected to the router in response to receiving an in-band signal from the router**(See abstract, Col. 23 line 17-27, fig. 17B i.e. in-band signaling between the working port of the OXC and router)**.

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Nishi, and have the OXC working port to be connected to the router in response to receiving an in-band signal from the router, as taught by Erickson, thus allowing a means of minimizing the time to customer service interruption during switching from the failed port to the protection port by having both ports in the same unit, as discussed by Erickson **(Col. 2 line 63-Col. 3 line 1)**.

Considering claim 13, Nishi does not specifically disclose the optical cross connection system of claim 12, where the working port is connected to the router in response to receiving a Synchronous Optical Network (SONET) signal from the router

Erickson teaches the optical cross connection system of claim 12, where the working port is connected to the router in response to receiving a Synchronous Optical Network (SONET) signal from the router **(See Col. 19 lines 1-7, Col. 23 line 6-27, fig. 15 i.e. working port is connected to a router in case of a failure in primary path)**.

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Nishi, and the OXC working port to be connected to the router in response to receiving a Synchronous Optical Network (SONET) signal from the router for the same reason as discussed in claim 12

Considering claim 14, Nishi does not specifically disclose the optical cross-connection system of claim 11, where the working port is connected to the router in response to receiving an out-of-band signal from the router.

Erickson teaches the optical cross-connection system of claim 11, where the working port is connected to the router in response to receiving an out-of-band signal from the router **(See Col. 2 lines 63-67 and Col. 3 lines 1-3, Col. 16 lines 28-46 i.e. working port is connected to a router in response to an out of bound signal)**.

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Nishi, and the working port is connected to the router in response to receiving an out-of-band signal from the router for the same reason as discussed in claim 12.

Conclusions

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hibret A. Woldekidan whose telephone number is (571)270-5145. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on 5712723078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. A. W./
Examiner, Art Unit 2613

/Kenneth N Vanderpuye/
Supervisory Patent Examiner, Art Unit 2613